# CENTER FOR DRUG EVALUATION AND RESEARCH APPROVAL PACKAGE FOR:

APPLICATION NUMBER 20-541/S-010

**Administrative Documents** 

# AstraZeneca Pharmaceuticals LP ZD1033 (anastrozole, ARIMIDEX®)

## PATENT CERTIFICATION WITH RESPECT TO ANY PATENT WHICH CLAIMS THE DRUG

For further information regarding this section, please contact:

Margaret G. Melville, MS Regulatory Affairs Director (302) 886-2118 AstraZeneca Pharmaceuticals LP 1800 Concord Pike PO Box 8355 Wilmington, DE 19803-8355

ARIMIDEX is a registered trademark, the property of the AstraZeneca group of companies.

#### AstraZeneca Pharmaceuticals LP 1800 Concord Pike Wilmington, DE 19850-5437

#### ARIMIDEX® (anastrazole) Tablets NDA 20-541

Pursuant to section 505 of the Federal Food, Drug, and Cosmetic Act, the information following below is made of record.

PATENT INFORMATION ON ANY PATENT WHICH CLAIMS THE DRUG OR A METHOD OF USING THE DRUG

#### Certification

Pursuant to 21 CFR Section 314.53(d)(ii), the Applicant certifies that US Patent No. Re 36,617, information relative to which has been submitted previously, covers the formulation, composition and/or method of use of ARIMIDEX® (anastrazole) Tablets which is the subject of this supplemental new drug application.

George A. Gilbert

EXCLUSI	VITY SUM	MARY for NDA #	20-541	SUPPL :	SE1-010
Trade N	ame ARI	MIDEX	Generic Name	anastroz	ole
Applica	nt Name	AstraZeneca	Pharmaceuticals	HFD-	150
Approva	l Date	9-5-02			
PART I:	IS AN E	XCLUSIVITY DET	ERMINATION NEEDE	<u>D</u> ?	
appl: Parts answe	ications, s II and	but only for III of this Exto one or more	on will be made in certain supplement of the following of	ents. Comp ry only if	lete you
a)	Is it an	original NDA	YES	//	00 / <b>x</b> /
b)	Is it an	n effectiveness	s supplement? YES	S /_ <b>x</b> _/	40 //
	If yes,	what type(SE1,	SE2, etc.)?	SE1	
c)	support safety?	a safety claim (If it require	view of clinical n or change in la red review only o n, answer "NO.")	abeling rel	ated to
			YES	/ <b>_x</b> _/	40 \\
	bioavail exclusive includire made by	ability study vity, EXPLAIN v ng your reasons	' because you bel and, therefore, why it is a bioave s for disagreeing that the study v	not eligib vailability y with any	le for study, arguments
	•		. ·		
	data but	it is not an	requiring the re effectiveness so at is supported	upplement,	describe

d) Did the applicant request exclusivity?
YES // NO /_X_/
If the answer to (d) is "yes," how many years of exclusivity did the applicant request?
· •
e) Has pediatric exclusivity been granted for this Active Moiety?
YES // NO /_X_/
IF YOU HAVE ANSWERED "NO" TO ALL OF THE ABOVE QUESTIONS, GO DIRECTLY TO THE SIGNATURE BLOCKS ON Page 9.
2. Has a product with the same active ingredient(s), dosage form, strength, route of administration, and dosing schedule previously been approved by FDA for the same use? (Rx to OTC) Switches should be answered No - Please indicate as such).
YES // NO /_X_/
If yes, NDA # Drug Name
IF THE ANSWER TO QUESTION 2 IS "YES," GO DIRECTLY TO THE SIGNATURE BLOCKS ON Page 9.
3. Is this drug product or indication a DESI upgrade?
YES // NO /_X_/
IF THE ANSWER TO QUESTION 3 IS "YES," GO DIRECTLY TO THE SIGNATURE BLOCKS ON Page 9 (even if a study was required for the upgrade).

### PART II: FIVE-YEAR EXCLUSIVITY FOR NEW CHEMICAL ENTITIES (Answer either #1 or #2, as appropriate)

#### 1. Single active ingredient product.

Has FDA previously approved under section 505 of the Act any drug product containing the same active moiety as the drug under consideration? Answer "yes" if the active moiety (including other esterified forms, salts, complexes, chelates or clathrates) has been previously approved, but this particular form of the active moiety, e.g., this particular ester or salt (including salts with hydrogen or coordination bonding) or other non-covalent derivative (such as a complex, chelate, or clathrate) has not been approved. Answer "no" if the compound requires metabolic conversion (other than deesterification of an esterified form of the drug) to produce an already approved active moiety.

YES /\_X\_/ NO /\_\_\_/

If "yes," identify the approved drug product(s) containing the active moiety, and, if known, the NDA #(s).

NDA # 20-541 ARIMIDEX
NDA #

NDA #

#### 2. Combination product.

If the product contains more than one active moiety (as defined in Part II, #1), has FDA previously approved an application under section 505 containing any one of the active moieties in the drug product? If, for example, the combination contains one never-before-approved active moiety and one previously approved active moiety, answer "yes." (An active moiety that is marketed under an OTC monograph, but that was never approved under an NDA, is considered not previously approved.)

YES /\_\_/ NO /\_X\_/

If "yes," identify the approved drug product(s) containing the active moiety, and, if known, the NDA #(s).

NDA #

NDA #

NDA #

IF THE ANSWER TO QUESTION 1 OR 2 UNDER PART II IS "NO," GO DIRECTLY TO THE SIGNATURE BLOCKS ON Page 9. IF "YES," GO TO PART III.

#### PART III: THREE-YEAR EXCLUSIVITY FOR NDA'S AND SUPPLEMENTS

To qualify for three years of exclusivity, an application or supplement must contain "reports of new clinical investigations (other than bioavailability studies) essential to the approval of the application and conducted or sponsored by the applicant."
This section should be completed only if the answer to PART II, Question 1 or 2, was "yes."

1. Does the application contain reports of clinical investigations? (The Agency interprets "clinical investigations" to mean investigations conducted on humans other than bioavailability studies.) If the application contains clinical investigations only by virtue of a right of reference to clinical investigations in another application, answer "yes," then skip to question 3(a). If the answer to 3(a) is "yes" for any investigation referred to in another application, do not complete remainder of summary for that investigation.

YES / X / NO / /

IF \*NO, \* GO DIRECTLY TO THE SIGNATURE BLOCKS ON Page 9.

2. A clinical investigation is "essential to the approval" if the Agency could not have approved the application or supplement without relying on that investigation. Thus, the investigation is not essential to the approval if 1) no clinical investigation is necessary to support the supplement or application in light of previously approved applications (i.e., information other than clinical trials, such as bicavailability data, would be sufficient to provide a basis for approval as an ANDA or 505(b)(2) application because of what is already known about a previously approved product), or 2) there are published reports of studies (other than those conducted or sponsored by the applicant) or other publicly available data that independently would have been sufficient to support approval of the application, without reference to the clinical investigation submitted in the application.

For the purposes of this section, studies comparing two products with the same ingredient(s) are considered to be bioavailability studies.

(a) In light of previously approved applications, is a clinical investigation (either conducted by the applicant or available from some other source, including the published literature) necessary to support approval of the application or supplement?

YES	/ x /	NO /	,

If "no," state the basis for your conclusion that a clinical trial is not necessary for approval AND GO DIRECTLY TO SIGNATURE BLOCK ON Page 9:

(b) Did the applicant submit a list of published studies relevant to the safety and effectiveness of this drug product and a statement that the publicly available data would not independently support approval of the application?

_/

(1) If the answer to 2(b) is "yes," do you personally know of any reason to disagree with the applicant's conclusion? If not applicable, answer NO.

If yes, explain:

(

	(2) If the answer to 2(b) : published studies not con applicant or other public independently demonstrate of this drug product?	ducted or spons ly available da the safety and	sored by the		
	If yes, explain:				
(c	) If the answers to (b)(1) identify the clinical inv application that are esse	estigations sub	omitted in the		
	<pre>Investigation #1, Study #</pre>	ATAC Trial	1033IL/0029		
	<pre>Investigation #2, Study #</pre>				
	Investigation #3, Study #				
to su inves relie previ dupli on by previ somet	3. In addition to being essential, investigations must be "new" to support exclusivity. The agency interprets "new clinical investigation" to mean an investigation that 1) has not been relied on by the agency to demonstrate the effectiveness of a previously approved drug for any indication and 2) does not duplicate the results of another investigation that was relied on by the agency to demonstrate the effectiveness of a previously approved drug product, i.e., does not redemonstrate something the agency considers to have been demonstrated in an already approved application.				
(a)	For each investigation ident approval," has the investigation agency to demonstrate the exapproved drug product? (If on only to support the safet drug, answer "no.")	ation been reli ffectiveness of the investigat	ed on by the a previously ion was relied		
	Investigation #1 ATAC	YES //	NO /_X_/		
	Investigation #2	YES //	NO //		
	Investigation #3	YES //	NO //		
	If you have answered "yes" investigations, identify each NDA in which each was relied	ch such investi			

	NDA #	Study #	
(b)	For each investigation is approval, " does the investigation of another investigation to support the effectives drug product?	stigation duplicat that was relied o	e the results n by the agency
	Investigation #1 ATAC	YES //	NO /_X_/
	Investigation #2	YES //	NO //
	Investigation #3	YES //	NO //
	If you have answered "yes investigations, identify investigation was relied	the NDA in which	
	NDA #	Study #	
	NDA #	Study #	
	NDA #	Study #	
(c)	If the answers to 3(a) are "new" investigation in the is essential to the appropriate of	he application or oval (i.e., the in	supplement that vestigations
	Investigation #1033IL, St	tudy # <u>0029</u>	
	Investigation #, Study	#	
	<pre>Investigation #, Study</pre>	#	
esses spons or spond of to or 2 subs	e eligible for exclusivity natial to approval must alsored by the applicant. Proposed by the applicant uct of the investigation, the IND named in the form the applicant (or its proposed by the applicant for the stantial support for the stantial s	so have been condumned investigation was to if, before or due of the applicant FDA 1571 filed with redecessor in intestudy. Ordinarily,	was "conducted was the sponsor the Agency, erest) provided substantial

4.

the study.

question 3(c): if the i	nvestigation was carried out pplicant identified on the FDA
Investigation #1 ATAC !	
IND # YES /_X_/ !	! NO // Explain:
Investigation #2 !	
IND # YES //	NO // Explain:
for which the applicant	
Investigation #1 !	
YES // Explain !	NO // Explain
Investigation #2 !	
YES // Explain !	NO // Explain
!	

(c) Notwithstanding an answer of "yes" to (a) or (b), are there other reasons to believe that the applicant should not be credited with having "conducted or sponsored" the study? (Purchased studies may not be used as the basis for exclusivity. However, if all rights to the drug are purchased (not just studies on the drug), the applicant may be considered to have sponsored or conducted the studies sponsored or conducted by its predecessor in interest.)

	155 //	NO /_A_/
If yes, explain:		

Signature of Preparer Title:

Date

Signature of Office or Division Director

Date

Archival NDA
HFD- /Division File
HFD- /RPM
HFD-093/Mary Ann Holovac
HFD-104/PEDS/T.Crescenzi

Form OGD-011347 Revised 8/7/95; edited 8/8/95; revised 8/25/98, edited 3/6/00 This is a representation of an electronic record that was signed electronically and this page is the manifestation of the electronic signature.

/s/

Richard Pazdur 9/5/02 06:16:09 PM

#### PEDIATRIC PAGE

(Complete for all APPROVED original applications and efficacy supplements)

ND.	A/BLA #: 20-541	Supplement Type	e (e.g. SE5):	SE1	Supplement ?	lumber: 010
Sta	mp Date: 3-5-02	Action Date:	9-5-02		HFD- <u>150</u>	
Тга	de and generic names/dosage fo	orm: ARIMIDE	X (anastrozol	e) Tablets		_
App	plicant: AstraZeneca Pharmace	uticals		_ Therape	eutic Class:	5010200
	Indication(s) previously appro- hormone receptor positive or ho	wed: ARIMIDEX is in the second of the second	indicated for too	he first-line tr dvanced or me	eatment of post	menopausal women with
	ARIMIDEX is indicated for the following tamoxifen therapy. It therapy rarely responded to ARI	Patients with ER-nega	d breast cance tive disease a	er in postmene nd patients wi	opausal women no did not respo	with disease progression nd to previous tamoxifen
	Each approved indicat	ion must have pe	diatric stu	dies: Comp	leted, Defer	red, and/or Waived.
Nui	mber of indications for this appl	ication(s):1				
Ind	ication #1: ARIMIDEX is indicater.	ted for adjuvant treatm	nent of postm	enopausal wo	men with horm	one receptor positive early breas
Is th	nere a full waiver for this indica	tion (check one)?				€.,
	✓ Yes: Please proceed to Sec	tion A.				, t
( .	No: Please check all that NOTE: More Please proceed to Section	than one may apply	, <u> </u>	_		
Sect	ion A: Fully Waived Studi	es				
	Reason(s) for full waiver:					
	☐ Products in this class for t ✓ Disease/condition does not		been studied/	labeled for pe	ediatric popula	tion
	Too few children with disc	ease to study				
	☐ There are safety concerns ☐ Other:					
_	udies are fully waived, then pedia schment A. Otherwise, this Pediat	tric information is co	mplete for this	s indication.	•	er indication, please see
Sect	ion B: Partially Waived St	udies			· · · · · · · · · · · · · · · · · · ·	
	Age/weight range being partia	lly waived:				
	Minkg Maxkg		yr yr		Stage Stage	
	Reason(s) for partial waiver:					
	Products in this class for t		been studied/	labeled for po	ediatric popula	tion
	<ul><li>Disease/condition does not</li><li>Too few children with dise</li></ul>					

	NDA 20-541/S-010 Page 2
(	☐ There are safety concerns ☐ Adult studies ready for approval ☐ Formulation needed ☐ Other:
If si con	tudies are deferred, proceed to Section C. If studies are completed, proceed to Section D. Otherwise, this Pediatric Page is applete and should be entered into DFS.
Secti	ion C: Deferred Studies
	Age/weight range being deferred:
	Min kg mo. yr. Tanner Stage Max kg mo. yr. Tanner Stage
	Reason(s) for deferral:
	Products in this class for this indication have been studied/labeled for pediatric population  Disease/condition does not exist in children  Too few children with disease to study  There are safety concerns  Adult studies ready for approval  Formulation needed  Other:
lf si	Date studies are due (mm/dd/yy): tudies are completed, proceed to Section D. Otherwise, this Pediatric Page is complete and should be entered into DFS.
Sec	tion D: Completed Studies
•	Age/weight range of completed studies:
	Min kg mo. yr. Tanner Stage  Max kg mo. yr. Tanner Stage
	Comments:
-	here are additional indications, please proceed to Attachment A. Otherwise, this Pediatric Page is complete and should be entered to DFS.
	This page was completed by:
	(See appended electronic signature page)
(	Regulatory Project Manager

# AstraZeneca Pharmaceuticals LP ZD1033 (anastrozole, ARIMIDEX®)

#### **DEBARMENT CERTIFICATION**

For further information regarding this section, please contact:

Margaret G. Melville, MS Regulatory Affairs Director (302) 886-2118 AstraZeneca Pharmaceuticals LP 1800 Concord Pike PO Box 8355 Wilmington, DE 19803-8355

ARIMIDEX is a registered trademark, the property of the AstraZeneca group of companies.

#### **ITEM 16 - CERTIFICATION STATEMENT**

Re:

Arimidex NDA 20-541/S-010

In response to the requirements of the Generic Drug Enforcement Act of 1992, I hereby certify on behalf of AstraZeneca Pharmaceuticals LP, that we did not use and will not use in connection with this application, the services of any person in any capacity debarred under section 306 (a) or (b)

Sincerel

Executive Director, US Regulatory Affairs

#### TELEPHONE CONFERENCE MEETING MINUTES

MEETING DATE: December 18, 2001 TIME: 4:00pm LOCATION: B

IND/NDA IND

Meeting Request Submission Date: 11-26-01 Briefing Document Submission Date: 12-3-01 Additional Submission Dates: 12-13-01

DRUG: Arimidex (anastrozole) Tablets

SPONSOR/APPLICANT: AstraZeneca Pharmaceuticals

#### TYPE OF MEETING:

1. Pre-NDA with a discussion regarding the results from the Arimidex adjuvant breast cancer program.

FDA PARTICIPANTS:

Richard Pazdur, M.D., Division Director, DODP Alison Martin, M.D., Clinical Team Leader, DODP Patricia Cortazar, M.D., Clinical Reviewer, DODP

John Leighton, Ph.D., Supv. Pharmacologist, DODP (pre-only)

Gang Chen, Ph.D., Statistical Team Leader, DODP Peiling Yang, Ph.D., Statistical Reviewer, DODP Rajeshwari Sridhara, Ph.D., Statistical Reviewer, DODP John Duan, Ph.D., Biopharmaceutical Reviewer, DODP Lilia Talarico, M.D., Acting Assoc. Director, DODP Amy Baird, Consumer Safety Officer, HFD-150

**INDUSTRY PARTICIPANTS:** 

Richard Hellmund, Global Project Statistician

Mark Steinberg, M.D., Global Med. Dir., Clinical and Med. Affairs

Margaret Melville, M.S., US Regulatory Affairs Director Dai Davies, Ph.D., Toxicology Proj. Leader, Global Safety

Assessment

David Bialek, Pharm.D., Regulatory Project Manager

Shamim Ruff, Global Regulatory Director Alison English, Global Product Director Julie Charlesworth, Project Manager Peter Berry, Medical Communications Scientist

Teresa Torello, Sr. Reg. Publishing Assoc.; Oncology TA

Submission Leader

Linda Faux, Sr. Global Project Manager

Tarek Sahmoud, M.D., Director of Clinical Research Mark S. Scott, Ph.D., Executive Director, Regulatory Affairs Gerard Kennealey, Vice President, Drug Development

Shawn P. O'Brien, Oncology Group Director Brian Stevenson, Arimidex Product Manager

#### **MEETING OBJECTIVES:**

1. Discuss sponsor's questions in briefing document dated 12-3-01.

### QUESTIONS for DISCUSSION with FDA RESPONSE and DECISIONS REACHED:

1. AstraZeneca believes that the Arimidex ATAC data represent a significant advance in the hormonal treatment of early post-menopausal breast cancer, and that the sNDA should be granted a Priority Review. Does the Agency agree?

#### FDA Response:

- We agree that Arimidex sNDA could be granted a priority review. At the time
  of the NDA submission FDA will communicate the final decision on granting
  a priority review.
- 2. AstraZeneca proposes an expedited and rolling submission of the Arimidex ATAC data as described above. AstraZeneca proposes to commence the submission on December 21, 2001, and that this filing data start the User Fee Goal Clock. Does the Agency agree?

#### FDA Response:

- No, we do not agree. Please formally request a Fast Track Designation to allow a rolling submission (Guidance for Industry Fast Track Drug Development Programs-Designation, Development and Application Review). However, regardless of whether you are granted Fast Track Designation, the User Fee Goal Clock will not start until the final piece of the sNDA is submitted. We will attempt to review this application as quickly as possible before a six month due date. However, review issues may emerge which prohibit a prospective formal commitment to this. This application will be considered a complex application that with more than 9,000 patients and subprotocols may require the allocation of considerable resources.
- 3. AstraZeneca has proposed an updated Table of Contents to Item 5. AstraZeneca will provide these Study Reports in electronic format with bookmarks, as previously agreed, and will not include hypertext linking. Does the Agency agree with the amended content and format of Item 5?

#### FDA Response:

Yes.

4. As the Arimidex ATAC Trial is the sole support for this sNDA, AstraZeneca requests the Agency waive the requirements of an HPB, ISE, ISS. All required information will be contained in the Main ATAC CSR. Does the Agency agree?

#### FDA Response:

• Please submit a table of other trials of Arimidex in the adjuvant setting and other trials (e.g., Phase 1 of the combination) besides ATAC that will be submitted in this sNDA. This will assist us in answering this question.

**Discussion:** ATAC trial will be submitted as the sole support for proposed indication. No other adjuvant trials or phase 1/2 exploratory trials will be submitted.

- Results of the combination arm should be explained. Therefore, an HPB should be submitted for our review.
- Are there animal data that address the inferior efficacy of the combination vs. single agent Arimidex?

**Discussion:** Sponsor to submit literature data regarding what studies have been conducted in animal with the combination drug product.

5. AstraZeneca proposes a rolling submission for Item 12, CRFs. Does the Agency agree with the proposed rolling submission schedule?

#### FDA Response:

- See answer to question 2.
- 6. AstraZeneca requests the Agency waive the requirement for a 4MSU. Does the Agency agree?

#### FDA Response:

No, the 4-month safety updated should be submitted. The median follow-up
for this adjuvant study is only slightly over two years. The safety database
could be improved with a 4-month safety update. To make such a submission
meaningful, the cutoff data should be timed 4 months after the NDA clock
starts.

7. AstraZeneca and FDA have discussed the need for ODAC review of the ATAC data. Can the Agency comment on when the Arimidex sNDA could be reviewed by ODAC?

#### FDA Response:

• No, it is premature to answer this question.

The meeting was concluded at 5:00pm.

5

Concurrence Chair:

5

Amy Baird Consumer Safety Officer Minutes Preparer Patricia Cortazar, M.D. Clinical Reviewer This is a representation of an electronic record that was signed electronically and this page is the manifestation of the electronic signature.

/s/

Amy Baird 6/26/02 02:12:33 PM

Patricia Cortazar 7/3/02 11:48:15 AM

#### TELEPHONE CONFERENCE MEETING MINUTES

MEETING DATE: October 15, 2001

TIME: 2:00pm

LOCATION: B

IND/NDA IND

Meeting Request Submission Date: 9-10-01 Briefing Document Submission Date: 9-10-01 Additional Submission Dates: 10-4-01

DRUG: ARIMIDEX (anastrozole) Tablets

SPONSOR/APPLICANT: AstraZeneca Pharmaceuticals

#### TYPE OF MEETING:

1. Pre-sNDA.

2. Proposed Indication:

FDA PARTICIPANTS:

Richard Pazdur, M.D., Division Director, DODP Alison Martin, M.D., Clinical Team Leader, DODP Patricia Cortazar, M.D., Clinical Reviewer, DODP Susan Honig, M.D., Clinical Reviewer, DODP Margaret Brower, Ph.D., Pharmacology Reviewer, DODP Gang Chen, Ph.D., Statistical Team Leader, DODP Rajeshwari Sridhara, Ph.D., Statistical Reviewer, DODP Atique Rahman, Ph.D., Biopharmaceutical Team Leader, DODP John Duan, Ph.D., Biopharmaceutical Reviewer, DODP Amy Baird, Project Manager, DODP

**INDUSTRY PARTICIPANTS:** 

David Bialek, PharmD., Regulatory Project Associate Bruce Birmingham, Ph.D., Sr. Clinical Scientist, Experimental Medicines Group

Dai Davies-Toxicology Project Leader, Global Safety Assessment Laura Garcia-Davenport, M.S., Assoc. Dir., Regulatory Affairs Stephen L. Harrison-Clinical Program Analyst, Global Clinical

Development

Richard Hellmund-Global Project Statistician

Stephen P. Rubin, M.D., Assoc. Director, Clinical Research Mark S. Scott, Ph.D., Exec. Dir., Oncology Regulatory Affairs Mark Steinberg, M.D., Medical Dir., Clinical and Medical Affairs Teresa Torello, Sr. Regulatory Submission Publishing Associate

#### **MEETING OBJECTIVES:**

Discuss sponsor's questions in briefing document dated 9-10-01 (serial # 455). 1.

Page	2
IND	

### QUESTIONS for DISCUSSION with FDA RESPONSE and DECISIONS REACHED:

#### Chemistry, Manufacturing and Controls

 Drug substance information within the Chemistry, Manufacturing, and Controls (CMC) section of the NDA for BRAND X will reference the CMC data filed in the ARIMIDEX NDA 20-541 and the NOLVADEX NDA 17-970. Drug product information will be provided as outlined in section 5.1 of this document.

In the ARIMIDEX sNDA all Chemistry, Manufacturing and Controls (CMC) information relating to ARIMIDEX drug substance and drug product and to NOLVADEX drug substance and drug product will be provided by cross-reference to NDA 20-541 and NDA 17-970 as described in section 6.1 of this document.

Does the Agency accept AstraZeneca's proposals for the CMC section of the BRAND X NDA and ARIMIDEX sNDA?

#### FDA Response:

- Yes. Please include the following information in the NDAs to be submitted:
- The name and address of all facilities involved in the manufacture of the drug substance and the drug product, and the contact persons and telephone numbers.
- The specific location of cross-referenced information (e.g., document type, submission dates and pages).

#### Non-Clinical Pharmacology and Toxicology

2. AstraZeneca intends to resubmit the ARIMIDEX oncogenicity study reports, as well as other relevant pre-clinical reports that support the adjuvant use of BRAND X in the NDA. The study reports to be included in the NDA are described in section 5.2 of this document. All other Non-clinical Pharmacology and Toxicology reports will be provided by cross-reference to data on file within the Non-clinical Pharmacology and Toxicology Sections of ARIMIDEX NDA 20-541 and NOLVADEX 17-970.

In the ARIMIDEX sNDA the Non-clinical Pharmacology and Toxicology reports to be provided are described in section 6.2 of this document. As all other reports have been previously submitted to NDA 20-541, they will be included by cross-reference.

Does the Agency accept AstraZeneca's proposals for the Non-clinical Pharmacology and Toxicology sections of the BRAND X NDA and the ARIMIDEX sNDA?

#### FDA Response:

- Yes. Resubmittal and cross-reference of relevant preclinical studies that support the NDA for Brand X as well as the sNDA supporting the use of Arimidex alone or in combination with Nelvadex for adjuvant treatment of breast cancer in postmenopausal women is acceptable.
- Studies which have not previously been submitted for the NDA should include complete data as well as line listings (e.g., study TKR/2963).

#### Human Pharmacokinetics and Bioavailability

3. The Human Pharmacokinetics and Bioavailability (HPB) section for the BRAND X NDA will include the reports described in section 5.3 of this document. All other HPB information supporting the BRAND X NDA will be included by cross-reference to ARIMIDEX NDA 20-541 and NOLVADEX NDA 17-970.

The Human Pharmacokinetics and Bioavailability (HPB) for the ARIMIDEX sNDA will be cross-referenced in its entirety to NDA 20-541 as described in section 6.3 of this document.

Does the Agency find AstraZeneca's proposal for the HPB acceptable?

#### FDA Response:

Yes.

#### Integrated Summary of Efficacy (ISE)

4. The ISE for the Brand X NDA will focus on the results from the ARIMIDEX/NOLVADEX combination arm of trial 1033IL/0029. If superior efficacy is identified in both the combination (ARIMIDEX/NOLAVDEX) arm and the ARIMIDEX monotherapy arm, a prospective exploratory analysis will be presented as described in section 5.4 of this document.

The ISE for the ARIMIDEX sNDA will focus on the results from the ARIMIDEX monotherapy arm as well as the ARIMIDEX/NOLVADEX combination arm of study 1033IL/0029. If equivalence of the ARIMIDEX monotherapy arm with NOLVADEX is identified, AstraZeneca will relate these results to the evidence from the EBCTCG Overview (Lancet 1998) to

assess the amount of NOLVADEX effect that is preserved by ARIMIDEX. This is described further in section 6.4 of this document.

#### Does the Agency agree?

#### FDA Response:

- A cut-off criterion of 1.25 ensures preservation of only 59% effect of Nolvadex by Arimidex. Given that the study population under consideration has a survival advantage, this may not be an acceptable non-inferiority margin. The proposed criteria of a hazard ratio of 1.25 for a non-inferiority claim will be a review issue.
- As you have pointed out, the estimate of the control effect from the review
  article includes patients pre- and post-menopausal, all ER/PR status (+, -, or
  unknown), and differing durations of treatment with tamoxifen. An effort
  should be made to find a better estimate of the control effect by including
  studies with post-menopausal patients only and those studies in which 5 years
  of tamoxifen was administered.
- It is possible that the ATAC population will be different from the 'Overview' population in all or some of these characteristics. This needs to be addressed in the non-inferiority analysis.
- We believe that it is important to conduct a per protocol analysis with ER/PR
   + patients only, since ER patients do not respond to tamoxifen.

#### **Integrated Summary of Safety (ISS)**

5. The ISS for the BRAND X NDA will focus on the safety data generated from the combination use of ARIMIDEX and NOLVADEX in the ATAC trial as described in section 5.5 of this document.

The ISS for the ARIMIDEX sNDA will describe the safety data generated from the use of ARIMIDEX alone and in combination with NOLVADEX as described in section 6.5 of this document.

Does the Agency agree?

#### FDA Response:

- Yes.
- Please report the total number of fractures and number of fractures by subcategory (spine, hip, wrist).

Page	5
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#### **Proposed Format of Electronic Submission**

6. The proposed format of the electronic submission for the Brand X NDA is described in section 5.6 of this document.

The proposed format of the electronic submission for the ARIMIDEX sNDA is described in section 6.6 of this document.

Does the Agency agree with the format of the electronic submissions?

#### FDA Response:

The proposed submission of electronic data is adequate. It will be helpful if
we have the opportunity to review and comment on a sample of the datasets
before the NDA submission. Submission of all primary datasets in a usable
format is a critical element of the electronic submission.

#### Statistical Methods for Multiple Comparisons

7. Since the analysis of ATAC will include two treatment group comparisons with NOLVADEX (ARIMIDEX versus NOLVADEX, and combination versus NOLVADEX), there is a need to control the overall type 1 error rate, otherwise known as the false-positive error rate. The statistical analysis plan for ATAC specifies that the type 1 error rate will be controlled by using the Hochberg method (Hochberg 1988), to simultaneously compare ARIMIDEX with NOLVADEX for non-inferiority and compare combination with NOLVADEX for superiority. Once these comparisons have been performed, ARIMIDEX and NOLVADEX will be compared for superiority, provided ARIMIDEX has been shown to be non-inferior to NOLVADEX.

No adjustment for multiple comparisons was specified in the ATAC protocol. In response to Agency comments received on October 10, 2000 the Hochberg method has been prospectively included in the ATAC statistical analysis plan, which has been provided to the Agency prior to data base lock (scheduled for October 2001). This methodology to adjust for multiple comparisons has been identified as suitable for the ATAC trial after consultation with two external experts in this field,

Page	6 '
MD	

Does the Agency agree that Hochberg is a suitable method to adjust for the multiple comparisons in the ATAC trial?

#### FDA Response:

- The adjustment of the nominal significance you have proposed is acceptable.
- Multiple comparisons using Hochberg's sequentially rejective procedure is
  acceptable. However, we recommend comparing Arimidex versus Arimidex
  + Nolvadex treatment arms to be included in the first step of simultaneous
  comparisons and subsequent steps to be modified accordingly.

Percentage of random ISS narratives, case report forms and case report tabulations for all deaths and for withdrawals due to adverse events, that would be required in the NDA and sNDA.

8. AstraZeneca anticipates that at the time of data base lock, there would be approximately 602 patients who died with and without breast cancer and approximately 975 patients who withdrew due to adverse events regardless of drug relationship.

What percentage of the total numbers of anticipated narratives, case report forms, and case report tabulations would the Agency like to review?

#### FDA Response:

 Please submit narratives, CRF and CRT from all deaths and adverse events for our review. You can exclude narratives and case report forms from hot flashes and vaginal discharge.

#### Timings of Filings and Agency Review

9.	AstraZeneca believes that the chemistry, preclinical and clinical package
	described in this briefing document is sufficient to support the filing of an
	NDA for BRAND X,
	This NDA will be filed only if the
	A DIMIDEY/NOT VADEY combination arm shows superior efficacy to

tamoxifen alone for the adjuvant treatment of breast cancer in postmenopausal women. As discussed in a teleconference with the Agency on September 27, 2000, AstraZeneca believes that as the BRAND X NDA submission will be based on superior efficacy it will receive a priority (6-month) review.

Does the Agency agree?

#### FDA Response:

• The timeline for the review will be determined once the NDA has been filed.

10. An sNDA for ARIMIDEX would be submitted within one month after the filing of the BRAND X NDA. This sNDA will be based on the expectation of obtaining positive results from the ATAC trial supporting the use of ARIMIDEX alone and/or in combination with tamoxifen. In the event that the ARIMIDEX single arm shows superior efficacy and potentially better safety profile than tamoxifen, AstraZeneca believes that the ARIMIDEX sNDA will also merit a priority (6-month) review.

Does the Agency Agree?

#### FDA Response:

 Priority review status could be granted if Arimidex shows convincing superior efficacy to tamoxifen and/or the combination shows superiority to Arimidex alone and tamoxifen alone.

Page 8 IND		
The meeting was concluded at 3	:00pm.	
181	Concurrence Chair	181
Arny Baird Project Manager Minutes Preparer	Consultation Chair	Patricia Cortazar, M.D. Clinical Reviewer

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/s/

Patricia Cortazar 4/29/02 02:42:15 PM

#### INDUSTRY TELEPHONE CONFERENCE MINUTES

MEETING DATE: September 27, 2000 TIME: 9:45am LOCATION: G

IND/NDA INDs Meeting Request Submission Date: 6-30-00
Briefing Document Submission Date: 6-30-00

Additional Submission Dates:

DRUG: IND

IND

SPONSOR/APPLICANT: AstraZeneca Pharmaceuticals

#### TYPE OF MEETING:

 Discuss combination tablet of 1 mg Arimidex and 20 mg Nolvadex for the adjuvant treatment of postmenopausal women with early breast cancer.

Proposed Indication: Adjuvant treatment of postmenopausal women with early breast cancer.

FDA PARTICIPANTS:

Richard Pazdur, M.D., Director, HFD-150
John Johnson, M.D., Clinical Team Leader, HFD-150
Grant Williams, M.D., Clinical Team Leader, HFD-150
Susan Honig, M.D., Clinical Reviewer, HFD-150
Wole Odujinrin, M.D., Clinical Reviewer, HFD-150
Patricia Cortazar, M.D., Clinical Reviewer, HFD-150
Sung Kwang Kim, Ph.D., Chemistry Reviewer, DNDC1
Yung-Ao Hsieh, Ph.D., Chemistry Reviewer, DNDC1
Margaret Brower, Ph.D., Pharmacology Reviewer, HFD-150
Gang Chen, Ph.D., Statistical Team Leader, HFD-150

Raji Sridhara, Ph.D., Statistical Reviewer, HFD-150 Atiqur Rahman, Ph.D., Biopharmaceutical Team Leader, HFD-150 John Duan, Ph.D., Biopharmaceutical Reviewer, HFD-150 Brian Booth, Ph.D., Biopharmaceutical Reviewer, HFD-150

Amy Baird, Consumer Safety Officer, HFD-150

**INDUSTRY PARTICIPANTS:** 

Sandra Bihary, MSN-Exec. Dir., Regulatory Affairs

Bruce Birmingham, Ph.D., Sr. Clin. Scientist, Experimental Med Group

Phil Brittain-Assoc. Dir., Project Mgmt.

Laura Garcia-Davenport, MS-Sr. Regulatory Proj. Mgr. Margaret Melville-Global Regulatory Affairs Dir.

Gary Nunn-Toxicology Proj. Leader, Global Safety Assessment

Stephen Rubin, M.D.-Assoc. Dir., Clinical Research

Mark Steinberg, M.D., -Medical Dir., Clinical and Med. Affairs

Robert Timko, Ph.D.-Tech. Regulatory Affairs Manager

Alan Webster-Global Project Statistician

#### **MEETING OBJECTIVES:**

Page 2	
INDs.	

Discuss sponsor's questions in briefing document dated 6-30-00.

#### QUESTIONS for DISCUSSION with FDA RESPONSE and DECISIONS REACHED:

1. The CMC package supporting the new drug product will include details of formulation, biobatch, manufacturing controls, test methods and specifications, and stability data per ICH guidelines as described in Section 3. Does the Agency find the package acceptable?

#### FDA Response:

- The proposed CMC package is acceptable. The bracketed stability study design is currently under review with the statistical team. Comments will follow.
- 2. The pre-clinical work filed to the ARIMIDEX NDA 20-541 and the NOLVADEX NDA 17-970 adequately support the proposed NDA, therefore no new pre-clinical studies will be conducted. The pre-clinical data will be provided by cross-reference to the Arimidex and Nolvadex NDAs. Does the Agency agree?

#### FDA Response:

- No. We prefer that AstraZeneca resubmit the appropriate pre-clinical data with the application that will support the adjuvant indication. When the application is submitted, pre-clinical data may be cross-referenced to the adjuvant supplement.
- 3. AstraZeneca will conduct a bioequivalence trial in postmenopausal women with advanced breast cancer to demonstrate bioequivalence between the currently marketed ARIMIDEX 1 mg tablet and NOLVADEX 20 mg tablet

  The proposal for the bioequivalence trial is described in Section 5. Does the Agency accept this proposal?

#### FDA Response:

- No. We do not accept the proposal.
  - You should conduct a single dose, cross over study in healthy volunteers with appropriate sampling times and adequate washout period. The protocol for the bioequivalence study should be submitted to the Agency for review.
- Please provide adequate justification for selection of subject numbers for the study.

Page 3	_	
INDs		<u> </u>

- It is recommended that you conduct a study to evaluate the effect of food on the tablet formulation.
- 4. The clinical section of the new NDA will be included by cross-reference to the clinical section of the adjuvant sNDA for the use of ARIMIDEX or ARIMIDEX/NOLVADEX in the treatment of postmenopausal women with early breast cancer. Does the Agency agree?

#### FDA Response:

- Your proposal is acceptable if the adjuvant sNDA has been approved.
- The Agency has previously communicated its concerns about the ATAC protocol design, including:
  - Inclusion of ER negative patients.
  - Potential imbalance in the number of Stage I, II, and III patients.
  - Lack of prospective stratification for important prognostic factors and your plan to perform retrospective adjustments using Cox modeling.
  - The use of prior adjuvant chemotherapy, chosen by each local investigator.
- The trial results will need to clearly demonstrate the non-inferiority of Arimidex to Nolvadex with acceptable safety in order to receive a single-agent indication for Arimidex. The presently proposed statistical analysis for non-inferiority is not acceptable under current standards. You should submit a detailed statistical analysis plan for the non-inferiority analysis. In the analysis plan, the Nolvadex effect relative to placebo should be evaluated based on historical data (meta analysis), using the upper bound of the 95% CI for the tamoxifen:placebo hazard ratio, and the non-inferiority margin should preserve a clinically appropriate percentage of Nolvadex effect.

Page 4	-		
INDs			
5.	In principle, the NDA for references clinical data data darm of the would be eligible for 6-m	lemonstrating that the ATAC Trial has superio	tablet, which or efficacy over NOLVADEX, Does the Agency agree?
FDA	Response:		
•	as well as on other criteria tablet, if the earlier supplement, would	I. It is unlikely that subm warrant priority review.	the new product to standard therapy, ission of an sNDA for a has already been approved in an
The to	elephone conference was co	ncluded at 10:30am.  Concurrence Chair	/\$/
-	Baird et Manager tes Preparer	·	Susan Honig, M.D. Clinical Reviewer
Conc	JS/ urrence Chair: Patricia Cortaz Clinical Revie		

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/s/

Susan Honig 4/18/01 08:28:40 AM

Patricia Cortazar 4/19/01 11:30:20 AM

# MEMORANDUM of MELTING

DATE: March 20, 1997 TIME: 11-12:30 WOC2 Conf. G

MEETING PURPOSE: End of Phase 2 Meeting (sNDA) for adjuvant therapy indication.

Proposed Indication: Arimidex \_\_\_\_\_\_ is indicated as adjuvant treatment of post-menopausal women with node-negative or node-positive breast cancer. One clinical trial is proposed, Protocol 1033IL/0029 (A Randomized, Double-Blind Trial Comparing Arimidex Alone with Nolvadex Alone with Arimidex and Nolvadex in Combination, as Adjuvant Treatment in Post-Menopausal Women with Breast Cancer).

MEETING BACKGROUND: This meeting was requested December 30, 1996 (received) and scheduled for February 10, 1997. On February 10, Zeneca requested to postpone the meeting in order to have time to provide additional information to the agency for preparation for discussion of the proposed adjuvant phase 3 clinical trial program. James Krook, M.D., ODAC participated in the pre-meeting on February 6, 1997.

INTRODUCTIONS: Brief introductions and opening by Zeneca. We immediately moved to discussion which included those items previously conveyed to Zeneca in our letter dated February 25, 1997.

#### DISCUSSION POINTS and DECISIONS REACHED:

- 1. Zeneca stated they have provided all available information regarding the efficacy of the combined use of Arimidex (anastrozole) and Nolvadex (tamoxifen citrate) in ER positive and ER negative breast cancer xenograft models. They do not have availability to Dr.

  data beyond what has been provided. They do not have the raw data nor do they have data on tamoxifen alone. At this time, they think there is an ongoing study in tamoxifen alone. The agency finds this acceptable and understands that Zeneca is not planning to do any studies on xenograft models, but would appreciate any data provided by Dr.
- 2. Zeneca reiterated their commitment (as stated in their March 17, 1997 letter) to perform an *in vitro* study to determine the potential of the combination to alter the level of tamoxifen citrate DNA adducting generated by rat liver microsomes as soon as possible but also offered an alternate proposal. Zeneca stated that due to the difficulty in conducting this type of *in vitro* study, they would rather conduct a two-week *in vivo* study in rats. Following lengthy discussion of both studies, all agreed that either type of study would be acceptable. Zeneca prefers the two-week *in vivo* study in rats. The agency suggested that adding human hepatocytes to the *in vitro* study would allow comparison to the adducting potential of the rat liver microsomes. This would aid in study interpretation by allowing for interspecies comparisons. Zeneca will contemplate the agency's recommendations for the *in vitro* study and will respond with a draft protocol as soon as possible.

Minutes of Meeting - March 20, 1997 Page 2

- Zeneca agreed to conduct a six-month oral study in male Wistar rats using Nolvadex, and Arimidex and Nolvadex in combination (with doses and dosing schedule comparable to that proposed for the clinical trial) assessing tamoxifen citrate pharmacokinetics, DNA adducting in liver, clinical signs, body weight, food comsumption, clinical pathology, gross pathology and histopathology. The study results will be submitted in the sNDA. Zeneca will draft a protocol and submit for our comment. Dr. Andrews stated that results from the two-week study noted above could potentially modify the recommendation for this six-month study.
- 4. Zeneca stated they are waiting for the report to be completed on Trial 1033IL/0031 which evaluates the effect of Arimidex 1 mg on the pharmacokinetics of tamoxifen citrate in post-menopausal women with breast cancer. They will submit the report as soon as available in the summer of 1997. Dr. Rahman noted that if metabolites had been assessed in that study, questions about drug interactions would have been answered. Unfortunately the question remains unanswered. It was agreed that Zeneca will submit a draft protocol for a subprotocol to the adjuvant trial to specifically address metabolites critical to determination of drug interactions and also race and ethnic differences (sparse sampling will suffice).
- 5. Zeneca justified the use of single agent Arimidex as adjuvant treatment of postmenopausal women with early stage breast cancer. In particular, Zeneca provided additional information on the efficacy of Arimidex as first-line therapy of metastatic breast cancer and the agency agreed that they may proceed with using Arimidex as a single agent in this trial (1033IL/0029).
- 6. Zeneca justified the use of the combination of Arimidex plus Nolvadex as adjuvant treatment of post-menopausal women with early stage breast cancer. Because there is no data available regarding the use of this combination in breast cancer patients, Zeneca assured the agency that they will demonstrate diligence in monitoring all patients receiving the combination. The agency noted Zeneca's caution and therefore, the combination use is allowed.
- 7. Zeneca discussed the inclusion of post-menopausal women with ER-negative tumors on this trial. The agency requested that language be inserted in the informed consent stating that the chances of ER-negative females responding is less than that of ER-positive females. Zeneca agreed to provide a draft of the proposed language for our review and comment as soon as possible. The agency noted that inclusion of this ER-negative population in this study could not be a basis for labeling.
- 8. The inclusion of patients with prior chemotherapy on this trial was discussed. The agency would prefer that if such patients must be enrolled, the choice of the chemotherapy regimen should be specified, at least by center, rather than leaving the choice of chemotherapy up to the individual investigator. Zeneca prefers not to specify chemotherapy by center and reassured the agency that they are confident an imbalance will not occur. The agency deferred to Zeneca's preference based on their agreement to

Minutes of Meeting - March 20, 1997
Page 3

provide extensive detailing on the chemotherapy, drugs, course length etc.

- 9. The agency agreed that the proposed definition of equivalence between Arimidex vs Nolvadex is acceptable.
- 10. The agency prefers that stratification be done prospectively at the time of randomization for baseline estrogen receptor status, nodal status, primary tumor size, previous chemotherapy, and age.
- 11. The agency prefers that the primary analysis should be done using the Logrank test. Exploratory analysis using the Cox model for a pre-specified set of covariates should be supported by other tests, i.e. stratified Logrank test. Concerns about baseline imbalances of prognostic factors were raised since the study is not stratified. Zeneca stated they will use the Cox model for the primary analysis and will specify the covariates carefully. In addition, Zeneca stated that the purpose of the interim look, scheduled to take place when half of the expected number of events have occurred, is to detect inferiority of the experimental treatment.

Concerns were raised about the timing of the major analysis and whether or not there will be enough events to show equivalence, and about adjustments of any subsequent analysis performed after the major analysis, since these subsequent analyses could be considered as interim analyses. Zeneca acknowledged these concerns.

- 12. Zeneca will attempt to assure accrual of equal numbers of Stage I and II breast cancer patients on this trial. The agency noted that this can be achieved via unblinded monitoring of proportions of each disease stage during the course of the trial. Zeneca acknowledged that if the ratio is different from 50/50, there may be an effect on time to recurrence.
- 13. The agency noted that depending on the results obtained, the proposed single pivotal study in 6000 patients may support the proposed indication of Arimidex, for administration either alone or in combination with Nolvadex as adjuvant treatment of post-menopausal women with early stage breast cancer. The proposed indication for node-negative and node-positive breast cancer may be too broad (will depend on the population of patients with Stages I and II breast cancer enrolled, and the results obtained).
- 14. The agency added that the most recent information on ocular events must be included in the investigators brochure and the informed consent.

#### **ACTION ITEMS:**

- 1. Zeneca will submit a draft protocol for the two-week study for comment as soon as possible followed by the six-month in vivo study draft protocol.
- 2. Zeneca will submit a draft protocol addressing the metabolites critical to determination of drug interactions and race and ethnic differences as soon as possible.

IND -Minutes of Meeting - March 20, 1997 Page 4

3. Zeneca will submit draft language regarding ER-negative patient response and ocular events to be included the informed consent.

There were no unresolved issues. The meeting was concluded at 12:45 pm.

#### ATTENDEES:

FDA/HFD-150

Robert Justice, M.D., Deputy Division Director, Division of Oncology Drug Products

Julie Beitz, M.D., Team Leader and Reviewer

Karen Johnson, M.D., Medical Officer

Margaret Brower, Ph.D., Pharmacology

Paul Andrews, Ph.D., Pharmacology Team Leader

Tony Koutsoukos, Ph.D., Statistician

Atique Rahman, Ph.D., Clinical Pharmacology and Biopharmaceutics, Team Leader

John Duan, Ph.D., Clinical Pharmacology and Biopharmaceutics

John M. Strong, Laboratory of Clinical Pharmacology

Leslie Vaccari, Project Manager Note: James Krook, M.D., ODAC participated in pre-meeting

Zeneca Sandra Aquaviva, Manager, Marketed Products Group, Drug Regulatory Affairs

Nigel C. Barass, Ph.D., International Project Toxicologist, Safety Of Medicines

Mike Dukes, Ph.D., Senior Scientist, Chemistry Metabolism & Endocrinology

Barbara Ewing, Ph.D., Assistant Director, Drug Disposition and Metabolism

David C. Lee, MBChC, International Project Physician, Medical Affairs

Margaret Melville, Senior Regulatory Specialist, Drug Regulatory Affairs

Terry Orton, Ph.D.Senior Scientist, Safety of Medicines

Mark M. Steinberg, M.D., Associate Director, Medical Affairs

John C. Topham, Ph.D, Safety Evaluation Manager, Safety of Medicines

Alan Webster, MSc, International Project Statistician, Medical Research

/\$/

Leslie Vaccari, Project Manager

Concurrence.

Robert Justice, M.D.

Deputy Director

Division of Oncology Drug Products

cc:

Original IND

HFD-150/Div File

HFD-150/DPease

HFD-150/LVaccari

HFD-150/all attendees

R/D reviewed by:

Minutes Preparer

JBeitz/4-4-97

MBrower/4-7-97

PAndrews/4-8-97

TKoutsoukos/4-10-97

ARahman/4-14-97

JDuan/4-9-97

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information

# NDA/EFFICACY SUPPLEMENT ACTION PACKAGE CHECKLIST

	Application Information						
ND	A 20-54	1	Efficacy Supplement Type SE1-		Supplement Number: 010		
Dn	ıg: ARIN	MIDEX (a	nastrozole) Tablets		Applicant: AstraZeneca Pharmaceuticals		
RP	M: Amy	Baird			HFD-150	Pl	hone #: 594-5771
Ap	plication	Туре: (Х)	505(b)(1) () 505(b)(2)	Refe	rence Listed Drug (NDA #, D	rug nam	e):
*	Applica	tion Class	ifications:				*
	•	Review p	priority			() Star	ndard (X) Priority
	•	Chem cla	ass (NDAs only)			3	
	•	Other (e.	g., orphan, OTC)				
*	❖ User Fee Goal Dates					9-5-02	
*	Special	programs	(indicate all that apply)			() 2 (res (X) Fas	
*	User Fe	e Informa	tion	· · ·		-	
	•	User Fee	;			(X) Pai	id
	•	User Fee	waiver			() Pub	all business lic health rier-to-Innovation er
	•	User Fee	exception				han designation fee 505(b)(2) er
*	Applica	tion Integr	rity Policy (AIP)			8. 17	
	•	Applican	it is on the AIP			7	(X) No
	•	This app	lication is on the AIP			() Yes	(X) No
	•	Exceptio	n for review (Center Director's memo)				
	•		ance for approval				
*			cation: verified that qualifying language cation and certifications from foreign a			(X) Ve	rified
*	Patent						
	•	Informat	ion: Verify that patent information wa	s subr	nitted	(X) Ve	
	•	Patent ce submitte	ertification [505(b)(2) applications]: V	erify t	ype of certifications	() I ( 21 CFF	R 314.50(i)(1)( <i>i</i> )(A) ( ) II ( ) III ( ) IV  R 314.50(i)(1) ( ) (iii)
, <i>,</i>	•	holder(s)	graph IV certification, verify that the a of their certification that the patent(s) fringed (certification of notification an	is inv	alid, unenforceable, or will	() Ven	

_	Exclusivity (approvals only)	
	Exclusivity summary	<i>V</i>
	<ul> <li>Is there an existing orphan drug exclusivity protection for the active the proposed indication(s)? Refer to 21 CFR 316.3(b)(13) for the de sameness for an orphan drug (i.e., active moiety). This definition is same as that used for NDA chemical classification!</li> </ul>	efinition of () Yes, Application #
<b>:</b>	Administrative Reviews (Project Manager, ADRA) (indicate date of each re-	view)
	General Information	
<b>*</b>	Actions	
	Proposed action	(X) AP () TA () AE () NA
	Previous actions (specify type and date for each action taken)	
	Status of advertising (approvals only)	(X) Materials requested in AP lette () Reviewed for Subpart H
<b>;</b>	Public communications	
	Press Office notified of action (approval only)	(X) Yes () Not applicable
	Indicate what types (if any) of information dissemination are anticip	(X) None () Press Release () Talk Paper () Dear Health Care Professional Letter
٠	Labeling (package insert, patient package insert (if applicable), MedGuide (if	f applicable)
	<ul> <li>Division's proposed labeling (only if generated after latest applicant of labeling)</li> </ul>	
	Most recent applicant-proposed labeling	8-27-02
	Original applicant-proposed labeling	12-20-01
	<ul> <li>Labeling reviews (including DDMAC, Office of Drug Safety trade in nomenclature reviews) and minutes of labeling meetings (indicate di reviews and meetings)</li> </ul>	
	Other relevant labeling (e.g., most recent 3 in class, class labeling)	✓ Tamoxifen
;·	Labels (immediate container & carton labels)	
	Division proposed (only if generated after latest applicant submission)	on) N/A
	Applicant proposed	N/A
	Reviews	N/A
•	Post-marketing commitments	
	Agency request for post-marketing commitments	9-4-02
*	<ul> <li>Documentation of discussions and/or agreements relating to post-modern commitments</li> </ul>	narketing
÷	Outgoing correspondence (i.e., letters, E-mails, faxes)	V
•	Memoranda and Telecons	N/A
<b>*</b>	Minutes of Meetings	And Andrew Control of the Control of
_	EOP2 meeting (indicate date)	3-20-97
	Pre-NDA meeting (indicate date)	10-15-01
	Pre-Approval Safety Conference (indicate date; approvals only)	N/A
	• Other	N/A

<u>.</u> _	Advisory Committee Meeting	And the second second
	Date of Meeting	N/A
	• 48-hour alert	N/A
*	Federal Register Notices, DESI documents, NAS, NRC (if any are applicable)	N/A
١-	Summary Application Review	
*	Summary Reviews (e.g., Office Director, Division Director, Medical Team Leader) (indicate date for each review)	
	Clinical Information	
*	Clinical review(s) (indicate date for each review)	9-5-02; 9-5-02; 8-13-02
*	Microbiology (efficacy) review(s) (indicate date for each review)	N/A
*	Safety Update review(s) (indicate date or location if incorporated in another review)	
<b>*</b>	Pediatric Page(separate page for each indication addressing status of all age groups)	9-5-02
*	Demographic Worksheet (NME approvals only)	N/A
*	Statistical review(s) (indicate date for each review)	9-3-02
*	Biopharmaceutical review(s) (indicate date for each review)	8-14-02
*	Controlled Substance Staff review(s) and recommendation for scheduling (indicate date for each review)	N/A
*	Clinical Inspection Review Summary (DSI)	*
	Clinical studies	N/A
	Bioequivalence studies	N/A
	CMC Information	And the second second
*	CMC review(s) (indicate date for each review)	5-15-02
*	Environmental Assessment	
	Categorical Exclusion (indicate review date)	5-15-02
	Review & FONSI (indicate date of review)	N/A
	Review & Environmental Impact Statement (indicate date of each review)	N/A
*	Micro (validation of sterilization & product sterility) review(s) (indicate date for each review)	N/A
*	Facilities inspection (provide EER report)	Date completed: () Acceptable () Withhold recommendation
*	Methods validation	() Completed () Requested () Not yet requested
	Nonclinical Pharm/Tox Information	
*	Pharm/tox review(s), including referenced IND reviews (indicate date for each review)	8-9-02
*	Nonclinical inspection review summary	N/A
*	Statistical review(s) of carcinogenicity studies (indicate date for each review)	N/A
<b>*</b>	CAC/ECAC report	N/A



**		
Dat	c.	
	~	

Dr. Richard Pazdur, Division Director Division of Oncologic Drug Products Food and Drug Administration HFD No. 150, Room No. 2055 Woodmont II Building 1451 Rockville Pike Rockville, MD 20852-1448

Re: NDA 20-5041/S-010
ARIMIDEX® (anastrozole) Tablets
Response to Subpart II and Phase IV Commitments

Dear Dr. Pazdur:

Reference is made to AstraZencea Pharmaceuticals LP (AstraZencea) March 4, 2002 submission of the Supplemental New Drug Application (sNDA) supporting the use of Arimidex for the Adjuvant treatment of postmenopausal women with hormone receptor positive early breast cancer. Additional reference is made to FDA rapifax communication dated September 4, 2002, outlining the Subpart H and Phase IV commitments for the above referenced sNDA.

The purpose of this submission is to advise the Agency that AstraZeneca accepts the wording for the Subpart H and Phase IV commitments as outlined in the September 4, 2002-rapifax.

The confidentiality of this submission, and all information contained herein, is claimed by AstraZeneca under all applicable laws and regulations. Disclosure of any such information is not authorized without the prior written authorization of AstraZeneca.

Please direct any questions or requests for additional information to me, or in my absence, to Laura E. García-Davenport, Associate Director, Project Management, at (302) 886-7533.

Sincerely.

David A. Bialck, Pharm.D. Regulatory Project Manager Regulatory Affairs (302) 886-5825 (302) 886-2822 (fax)

Desk Copy: Ms. Amy Baird, HFD No. 150, Room No. 2106

US Regulatory Affairs
AstraZeneca Pharmaceuticals LP
1500 Concord Pike PO Box 8355 Wilnington DE 19803-8355



# FAX

Date: Sc	eptember 5, 2002		
Number of	pages including cover sheet:	2	
Re: Resi	ponse to Subpart H and Phase	IV Commitments	
'Γo:	Amy Baird	From:	David Bialck, PharmD
<i></i>		•	US Regulatory Affairs
Phone:	301-594-5771	Phone:	302-886-5825
Fax phone:	301-594-0498	Fax phone:	302-886-2822
CC:			
REMARKS:			
🗆 t	Urgent 🔀 For your rev	cw Reply ASAP	☐ Please comment
Amy,			
	closed AstraZeneca's accepta		<del>-</del>
commitments.	. This should conclude corres	condence prior to receipt	of FDA's approval letter.
Chauld you be	non and average and a	iron to contact ma	
Should you na	ave any questions, please feel	ice to comact me.	
Thank you in	advance		
David Bialck			

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Center for Drug Evaluation and Research, HFD-150 Parklawn Building 5600 Fishers Lane, Rockville, MD 20857



То:	Dav	e Bialek, Pharm.D.		From: Amy Baird, CSO		
Fax	302-	886-2822		Fax: (301) 594-0498		
Phone:	ne: 302-886-5825			Phone:	(301) 594-5771	
Pages	(inch	uding cover): 2		Date:	September 4, 2002	
Re:		A 20-541/S-010 Arim	idex. Request for Phase	4 commitments ar	nd proposal for accelerated	
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#### Comments:

Attached are the Subpart H and Phase 4 requests that will be in the action letter for Arimidex. Please provide a written commitment to the Division's requests. Please call should you have any questions.

Thank you,

Amy Baird

#### Subpart H post marketing commitments

- To submit a complete report of the updated ATAC data during 2004 to verify the safety and efficacy of Arimidex in the adjuvant treatment of postmenopausal women with hormone receptor-positive early breast cancer. The report will include an analysis of efficacy in the subgroup of patients who have received chemotherapy.
- 2. To conduct a double-blind, randomized, comparison trial using Arimidex with and without bisphosphonate therapy in early breast cancer patients. The design of this trial will be finalized in consultation with the Agency by November 1, 2002.
- 3. To submit a subprotocol and conduct a study to evaluate the development of hyperlipidemia and control of hyperlipidemia in patients on the ATAC trial.

Final study reports should be submitted to this NDA as a supplemental application. For administrative purposes, all submissions relating to this post marketing commitment must be clearly designated "Subpart H Post Marketing Commitments."

#### Phase 4 commitments

- 1. In the NDA Annual Progress Reports provide information regarding the incidence of the pre-specified safety events and hypercholesterolemia for the treatment arms of the ATAC trial.
- Continue to collect data in the ATAC trial on serious adverse events including fractures and those
  associated with hypercholesterolemia (i.e., cardiovascular and cerebrovascular adverse events) for an
  additional five years following discontinuation of treatment or breast cancer recurrence. Submit the
  safety report summarizing these data by January 1, 2011.
- 3. To submit a complete report of the updated ATAC data to verify the safety and efficacy of Arimidex in the adjuvant treatment of postmenopausal women with hormone receptor-positive early breast cancer when all patients on the ATAC trial have completed five years of treatment and two years of follow-up (approximately June 2007). The report will include an analysis of efficacy in the subgroup of patients who have received chemotherapy

09/04/02 17:29

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Phone:	302-	886-5825		Phone:	(301) 594-5771	
Pages	Pages (including cover): 2			Dates	September 4, 2002	
Re: NDA 20-541/S-010 Arimidex. Request for Phase 4 commitments and proposal for accel approval.						
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8640-46\$	(105)	FAX:	ZPLS-1	65(10E)	<b>SHONE:</b>
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08/12/02 13:30 NO.035
Dotti for Amy
Тћалка
COMMENTS: We have a request from our Arimidex statisticians for the SAS program code to convert dates from "10DEC1996" to "12/10/1996" format.
Date: 8-12-02
Total number of pages, including cover sheet
FROM: Dotti Pease, Project Manager Phone: (301) 594-5742
TO: Laura Garcla-Davenport Fax: 302 886-2822

MESSAGE CONFIRMATION

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Pages	(incl	uding cover): 1		Date: August 2, 2002			
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#### Comments:

Per the clinical reviewer, the following pathology reports from patients with ipsilateral recurrence are still missing:

Arimidex Arm: 0047/0001, 0211/0004, 0250/0034

Tamoxifen Arm: 0003/0011, 0211/0017, 0256/0020, 0424/0013, 0498/0015 Arimidex + Tamoxifen Arm: 0100/0017, 0235/0017, 0250/0037, 0322/0014

by telephone and return it to us at the above address by mail. Thank you.

Please call should you have any questions.

Thank you,

Amy Baird

08/02/02 13:22 ID=FDA-DODP

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28/02 00'30" 8862822 CALLING 01 OK 9000

28/02/02

13:21

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Phone:	e: 302-886-5825			Phone: (301) 594-5771			
Pages	(inch	uding cover): 1		Date:	July 30, 2002		
Re:	NDA 7-25		nidex. Regarding FDA fac	similes dated 7-23	-02 (not sent until 7-24-02) and	E .	
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#### • Comments:

Regarding FDA facsimile dated 7-23-02, please disregard question #1. The Division has located these CRFs. Also, question 4 should read "Patient 0438/0011" not "Patient 0436/0019". In regards to FDA facsimile dated 7-25-02, the Division has located all but 5 of the CRFs listed in that facsimile. Please provide the following missing CRFs:

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0027/0059, 0027/0066, 0449/0008, 0065/0004, 0097/0026.

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Thank you,

Amy Baird

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Dave	e Bialek, Pharm.D.		From: An	ny Baird, CSO	_
302-	886-2822		Fax: (30	1) 594-0498	
302-	886-5825		Phone: (30	01) 594-5771	
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#### Comments:

Per the request of the clinical team, please respond to the following request for clarification.

by telephone and return it to us at the above address by mail. Thank you.

Patient 0002/0019 CRF states that the patient died from ovarian cancer not related to breast cancer. However, the datasets showed this patient had distal recurrence. Please comment.

Call me should you have any questions.

Thank you,

Amy Baird U

07/29/02 16:06

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#### Comments:

Per the clinical reviewer, please provide the following missing CRFs. Please call should you have any questions.

0008/0030, 0027/0059, 0027/0066, 0043/0002, 0059/0010, 0065/0004, 0097/0026, 0211/0006, 0211/0031, 0216/0007, 0250/0012, 0263/0027, 0265/0019, 0307/0019, 0426/0127, 0433/0013, 0435/0045, 0449/0008, 0489/0008, 0492/0001

Thank votes

Amy Baird

07/25/02 11:43

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07/25 00'29" B862822 CALLING 01 DK 0000

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Thank you.

Amy Baird

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• Com	ment	•			
		al reviewer, please	provide the responses to	the following	requests for information. Please call

RE: FDA request for missing CRFs

July 23, 2002 Page 2

1. Please provide the following CRFs from patients who died during treatment:

0009/0060, 0012/0002, 0018/0101, 0113/0002, 0213/0038, 0289/0013, 0290/0020, 0298/0003, 0505/0009, 0525/0013, 0003/0025, 0010/0063, 0010/0091, 0062/0007, 0071/0006, 0153/0026, 0211/0062, 0212/0002, 0212/0039, 0234/0019, 0250/0018, 0281/0024, 0283/0031, 0301/0030, 0004/0035, 0011/0005, 0040/0003, 0070/0005, 0077/0003, 0080/0048, 0116/0003, 0201/0020, 0235/0017, 0283/0028, 0304/0007, 0307/0002.

- Regarding patient 0011/0008, please clarify the following information from the CRF. On 11/05/1999 followup, it states no recurrence, but at 11/05/1999 it states axillary lymph node recurrence by clinical examination only.
- Regarding Patient 0222/0008, CRF states cause of death was breast cancer and pyloric stenosis. No confirmed recurrence before death. Please comment on the cause of death.
- Regarding Patient 0436/0019, CRF states cause of death was breast cancer, unknown and dementia.
   Please comment.

The attached JMP table is a query of the patients with loco regional recurrence who had axillary sampling and radiation therapy (see RADIOT of SO1604 where field states Y). Please provide information if the axillary regions were included in the field at the time of breast irradiation.

APPEARS THIS WAY ON ORIGINAL

# Subset of locoreg AXSURG samp XRT

Rows	SUBJECT of DDEMOG	RECDET	AXSURG	AXDET	RADIOT of S01604	TRTSEQ of RS01613
1	0002/0030	4	Y	1	'Y	002
2	0004/0035	4	Υ	1	Y	003
3	0004/0039	4	Y	1	Υ	003
4	0005/0037	4	Y	1	Y	002
5	0006/0001	4	Υ	1	Y	003
6	0014/0116	4	Y	1	N	003
7	0018/0036	4	Y	1	Y	001
8	0019/0010	4	Y	1	Y	002
9	0019/0026	4	Y	1	N	001
10	0049/0021		Υ	1	Y	002
11	0059/0009	<del></del>	Y	1	Y	001
12	0062/0001	<del>+</del>	Υ	1	Y	001
	0062/0007	<del></del>	<del>-</del>	1	Y	002
14	0067/0002	+	Y	1	N	002
15	0067/0007	<del>+</del>		: 1	Y	<del>, , , , , , , , , , , , , , , , , , , </del>
16	0076/0006	<del></del>	Y	<del> </del>		003
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	0117/0002		<del></del>	1		001
18	0152/0037	<del></del>	<u>Y</u>	1	Υ	001
19	0171/0031	4	<u>Y</u>	1	Y	002
	0197/0003	<del></del>	Υ	1	N	003
21	0201/0008		Y	1	N	001
_22	0212/0039	<del></del>	Y	1	Υ	002
23	0213/0031	<del></del>	Y	1	Y	003
24	0214/0005	4	Y	1	Υ	003
25	0307/0002	4	Υ	1	N	:003
26	0322/0014	4	Y	1	Υ	003
27	0324/0017	4	Υ	1	Υ	001
28	0409/0049	4	Υ	1	N	001
29	0432/0014	4	Υ	1	Y	002
30	0435/0027	4	Υ	1	Υ	002
31	0435/0038	4	Y	1	N	001
32	0436/0010	4	Y	1	Y	001
33	0441/0005	4	Υ	1	Y	002
34	0441/0009	4	Y	1	Υ	002
35	0446/0011	. 4	Y	1	Y	001
36	0449/0005	} 4	Υ	1	N	003
37	0450/0019	4	Υ	1	N	003
38	0457/0005	4	Y	1	N	002
	0466/0002	4	Y	1	Y	001
	0469/0026	4	Y	1	N	002
41		4	<del> </del>	1	N	003
	0475/0007	+	Y	1	N	001
	0475/0022	4		1	Y	002
	0480/0004	4	Y	1	N	003
	0482/0002		Y	1	Y	002
	0497/0009		Ÿ	1	Y	:002
	0497/0029		Y	1	Y	002
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	0508/0006	<del></del>	Y	1	Y	003
	0510/0006	<del></del>	Y	1	<u> </u>	1003
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questions.

Thank you,

Arny Baird

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Per the clinical reviewer, please provide the following missing CRFs. Please call should you have any

Table 2. Patients reporting Loco-regional Recurrence of the ipsilateral Breast as Presented in Table 36 of the CSR (Patient Population: All Randomised Patients)

Randomised Treatment	Centre	Patient
Anastrozole	0008	0013
	0008	0072
	0018	0026
	0047	0001
	0059	0009
	0117	0002
	0165	0002
	0172	0010
	0183	0004
	0185	0014
	0211	0004
	0250	0034
	0307	8000
	0307	0066
	0324	0017
	0409	0049
	0436	0010
Tamoxifen	0003	0011
	0003	0025
	0016	0007
	0019	0010
	0027	0084
	0049	0021
	0053	0011
	0067	0002
	0071	0010
	0122	0007
	0166	0007
	0168	0014
	0174	0019
	0211	0017
	0307	0024
	0424	0013
	0426	0123
	0441	0009
	0482	0002
	0486	0063
	0492	0001
	0498	0015
Anastrozole + Tamoxifen	0012	0014
	0014	0116
	0072	0018
	0076	0006
	0080	0048
	0097	0026
	0100	0017
	0167	0017

NDA 20-541/S-010 RE: FDA request for missing CRFs	July 17, 2002 Page 3		
Randomised Treatment	Centre	Patient	
Anastrozole + Tamoxifen	0201	0020	
	0235	0017	
•	0250	0037	
	0269	0006	
	0307	0051	
	0322	0014	
	0449	0005	
	0450	0019	
	0474	0012	
	0502	0010	
	0526	0018	

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DATE S,R-TIME DISTANT STATION ID MODE PAGES RESULT

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07/17/02

15:03

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**P**01



## **DIVISION OF ONCOLOGY DRUG PRODUCTS**

Center for Drug Evaluation and Research, HFD-150 Parklawn Building 5600 Fishers Lane, Rockville, MD 20857



To:	Dav	e Bialek, Pharm.D.		From:	Amy Baird, CSO	
Fax:	302-	886-2822		Fax:	(301) 594-0498	
Phones	ne: 302-886-5825			Phone: (301) 594-5771		
Pages	(inch	iding cover); 3		Date:	July 17, 2002	
Re:	NDA	20-541/S-010 Arim	nidex.			
□ Vige	ent	☐ For Review	☐ Piease Comment	X Please Reply	y 🔲 Please Recycle	

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Center for Drug Evaluation and Research, HFD-150 Parklawn Building 5600 Fishers Lane, Rockville, MD 20857



To:	Dave B	ialek, Pharm.D.	<u></u>	From:	Army Baird, CSO
Fax:	302-886	5-2822		Fax:	(301) 594-0498
Phone:	302-886	3-5825		Phone:	(301) 594-5771
Pages	(includi	ng cover): 1		Date:	July 15, 2002
Re:	NDA 20	0-541/S-010 Arimi	dex.		
□ Urge	ent [	] For Review	☐ Please Comment	X Please Repl	y Please Recycle
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• Com	ments:				
Per the question		eviewer, please p	erform a time to first frac	ture event analysi	s. Please call should you have any
Thank y	уоц,		•		
Amy Ba	aird			•	

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**P01** 



# **DIVISION OF ONCOLOGY DRUG PRODUCTS**

Center for Drug Evaluation and Research, HFD-150 Parklawn Building 5600 Fishers Lane, Rockville, MD 20857



To;	Dav	e Bialek, Pharm.D.		From	Arny Baird, CSO	
Faxo	302-	886-2822		Faxc	(301) 594-0498	
Phone:	x 302-886-5825			Phone: (301) 594-5771		
Pages (including cover): 1				Onto:	July 15, 2002	
Re:	NDA	20-541/S-010 Arim	idex.			
□ Urge	ont	☐ For Review	☐ Please Comment	X Piesse Repl	y Piesse Recycle	

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То:	Dave	Bialek, Pharm.D.		From:	Army Baird, CSO
Fax:	302-	886-2822		Fax:	(301) 594-0498
Phone:	302-	886-5825		Phone	(301) 594-5771
Pages	(inclu	ding cover): 2		Date:	July 3, 2002
Re:			idex. Follow-up to telephonds		held yesterday, 7-2-02, between
□ Urge	ent	☐ For Review	☐ Please Comment	X Please Repl	y 🖸 Please Recycle
MAY Control DISCLO	ONTA OSURE nt to th	IN INFORMATION UNDER APPLICAT  addressee, you are b	THAT IS PRIVILEGED, C BLE LAW. If you are not the nereby notified that any review	ONFIDENTIAL A ne addressee, or a po w, disclosure, disse	WHOM IT IS ADDRESSED AND ND PROTECTED FROM erson authorized to deliver the emination or other action based on the in error, please immediately notify us

#### • Comments:

Per the request of the statistical and clinical reviewers, please provide the following:

by telephone and return it to us at the above address by mail. Thank you.

- 1. Please submit a dataset with patient identification, treatment arm and histology from loco-regional recurrences or new primaries from the following patients:
  - -From Table 17 of the Study Report, new primary contralateral breast cancer (14 + 33 + 28).
  - -From Table 36 of the Study Report, ipsilateral breast cancer recurrence (21 + 31 + 20).

Regarding Table 17: Recurrence status as of data cut-off according to first confirmed event (vol 1. submitted on 3-25-02)

2. You have reported 67, 83, and 81 patients with loco-regional recurrence in treatment arms A, T, and A + T respectively. Our analysis using DDEMOG data set gives 68, 90 and 87 patients respectively for trt arms A, T and A + T. Please clarify the difference.

RE: Follow-up to telephone conversation held 7-2-02

Page 2

3. You have reported 157, 181, and 202 patients with distant recurrence in treatment arms A, T, and A + T respectively. Our analysis using DDEMOG data set gives 267, 299 and 312 patients respectively for trt arms A, T and A + T. Please clarify the difference.

Thank you, Amy Baird 12/

07/03/02 12:25

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07/03/02

12:23

NO.240

D01



# **DIVISION OF ONCOLOGY DRUG PRODUCTS**

Center for Drug Evaluation and Research, HFD-150 Parklawn Building 5600 Fishers Lane, Rockville, MD 20857



	Bialek, Pharm.D.		From:	Amy Baird, CSO	
302-88	6-2822		Faxo	(301) 594-0498	
302-88	96-5825	· · · · · · · · · · · · · · · · · · ·	Phones	(301) 594-5771	
includ	ing cover): 2		Deter	July 3, 2002	
NDA 20-541/S-010 Arimidex. Follow-up to telephone conversation held yesterday, 7-2-02, between					
yourse	if, Drs. Cortazar a	and Sridhara, and Army Ba	ird.		
nt	For Review	☐ Please Comment	X Piesse Repi	y 🗆 Piesse Recycle	
1	302-88 includ NDA 2 yourse	yourself, Drs. Cortazar a	302-886-5825  Including cover): 2  NDA 20-541/S-010 Arimidex. Follow-up to telephonouself, Drs. Cortazar and Sridhara, and Amy Ba	302-886-5825  Phone: Including cover): 2  Dete:  NDA 20-541/S-010 Arimidex. Follow-up to telephone conversation by yourself, Drs. Cortazar and Sridhara, and Amy Baird.	

### FOOD AND DRUG ADMINISTRATION DIVISION OF ONCOLOGY DRUG PRODUCTS

Center for Drug Evaluation and Research, HFD-150 5600 Fishers Lane, Rockville, MD 20857



To:	Dave Bialek, Pharm.D.		From: Amy Baird, CSO	
Fax:	302-886-2822		Fax: (301) 594-0498	<u></u>
Phon	e: 302-886-5825		Phone: (301) 594-5771	
Pages	s, including cover sheet:	2	Date: 6-19-02	

Re: NDA 20-541/S-010 Arimidex (anastrozole) Tablets.

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#### **COMMENTS:**

Per the clinical reviewer, please provide the information requested on the following pages. Please call should you have any questions.

Thank you,

/\$/

#### Page 2 NDA 20-541/S-010

- 1. The adverse events collected in the ATAC trial show that hypercholesterolemia was more frequently reported for the Arimidex group than the Tamoxifen group. The advanced breast cancer study also demonstrated an increase in cholesterol. Tamoxifen is associated with a favorable lipid profile; although the favorable profile has not translated into a cardiovascular benefit for patients taking tamoxifen. The planned lipoprotein substudy was never completed; however if completed would have had a control group for comparison with Arimidex group. In view of the elevated cholesterol levels seen in the ATAC postmenopausal participants, please comment on the potential for cardiovascular events in women treated with Arimidex.
- 2. Please provide a table for the other fractures (i.e., not hip, spine or wrist/Colles) listing specific type of fracture and the numbers of patients sustaining a fracture by treatment group.
- 3. Provide information on the number of patients by treatment group who had more than 1 fracture event.
- 4. Please provide a table listing the number of patients who had a fracture by treatment group by fracture etiology (fall/traumatic, motor vehicle accident, unknown, etc.).
- 5. Please provide information on the number of locoregional recurrence patients who had noninvasive disease by treatment group.

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06/19/02 15:00

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26/19 20/43" 8862822 CALLING 82 0K 2000

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14:58

NO.169 001

# **FAX**

## FOOD AND DRUG ADMINISTRATION DIVISION OF ONCOLOGY DRUG PRODUCTS

Center for Drug Evaluation and Research, HFD-150 5600 Fishers Lane, Rockville, MD 20857



Phone	: 302-886-5825	 Phone: (301) 594-5771	
Fax:	302-886-2822	Fax: (301) 594-0498	
To:	Dave Bialek, Pharm.D.	 From: Amy Baird, CSO	

Re: NDA 20-541/S-010 Arimidex (anastrozole) Tablets.

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Center for Drug Evaluation and Research, HFD-150 5600 Fishers Lane, Rockville, MD 20857



To:	Dave Bialek, Pharm.D.		From: Amy Baird, CSO	
Fax:	302-886-2822		Fax: (301) 594-0498	
Phon	e: 302-886-5825		Phone: (301) 594-5771	
Pages	s, including cover sheet:	2	Date: 6-11-02	

Re: NDA 20-541/S-010 Arimidex (anastrozole) Tablets.

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#### **COMMENTS:**

Per the clinical reviewer, please provide the information requested on the following pages. Please call should you have any questions.

Thank you,

Page 2 NDA 20-541/S-010.

- 1. Specify the non-approved or experimental treatment received before randomization (from Table 11 page 44 or 72 of the Study Report).
- 2. Specify the therapy that affect sex hormone status or prevent recurrence, received prior to disease recurrence (from Table 12 page 47 or 74 of the Study Report).
- 3. List and specify all the non-allowed concomitant medications, date of first administration, duration of therapy, reason for therapy and repeated use of medication (such as several courses of medication for uterine bleeding).

APPEARS THIS WAY ON ORIGINAL

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NO.121 701

# **FAX**

## FOOD AND DRUG ADMINISTRATION DIVISION OF ONCOLOGY DRUG PRODUCTS

Center for Drug Evaluation and Research, HFD-150 5600 Fishers Lane, Rockville, MD 20857



To:	Dave Bialek, Pharm.D.	From: Amy Baird, CSO
Fax:	302-886-2822	Fax: (301) 594-0498
Phon	e: 302-886-5825	Phone: (301) 594-5771
Pages	i, including cover sheet: 2	Date: 6-11-02

Re: NDA 20-541/S-010 Arimidex (anastrozole) Tablets.

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## FOOD AND DRUG ADMINISTRATION DIVISION OF ONCOLOGY DRUG PRODUCTS

Center for Drug Evaluation and Research, HFD-150 5600 Fishers Lane, Rockville, MD 20857



To: Dave Bialek, Pharm.D.	······	From: Amy Baird, CSO	
Fax: 302-886-2822		Fax: (301) 594-0498	
Phone: 302-886-5825	<del></del>	Phone: (301) 594-5771	
Pages, including cover sheet:	2	Date: 6-7-02	

#### Re: NDA 20-541/S-010 Arimidex (anastrozole) Tablets.

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#### **COMMENTS:**

The clinical reviewer who is reviewing the safety portion of your efficacy supplement has a number of questions regarding hypercholesterolemia, see the attached for requests for information. Please call should you have any questions.

Thank you,

- 1. Please provide a table for patients with hypercholesterolemia as a new adverse event in the trial showing numbers of patients and incidence rates: Previous history of hypercholesterolemia (yes/no) by treatment.
- 2. How did you obtain information on hypercholesterolemia as a past medical history? Did you specifically cross check lipid lowering medications and past medical history?
- 3. How was the information on hypercholesterolemia as an adverse event obtained? Did you specifically check patient forms for the addition of lipid lowering medication or diet changes?
- 4. Please provide a table of patients reported to have hypercholesterolemia as a new adverse event by hyperlipidemia (past medical history yes/or) by breast cancer hormone therapy.
- 5. Please provide a table of patients reported to have hypercholesterolemia as a new adverse event by hyperlipidemia (past history based on lipid lower medication yes/no) by breast cancer hormone therapy.
- 6. Provide a table of patients reported to have hypercholesterolemia as a new adverse event by hyperlipidemia treatment started during the trial (yes/no) by breast cancer hormone therapy.
- 7. Please also provide documentation concerning the death of tamoxifen patient #0406/0023. This patient is listed as having died as a result of endometrial hyperplasia; however, there is no documentation of death.

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NO.102

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# **FAX**

# FOOD AND DRUG ADMINISTRATION DIVISION OF ONCOLOGY DRUG PRODUCTS Center for Drug Evaluation and Research, MED, 150

Center for Drug Evaluation and Research, HFD-150 5600 Fishers Lane, Rockville, MD 20857



To: Dave Bialek, Pharm.D.

From: Amy Baird, CSO

Fax: 302-886-2822

Fax: (

(301) 594-0498

Phone: 302-886-5825

Phone: (301) 594-5771

Pages, including cover sheet:

2

Date: 6-7-02

Re: NDA 20-541/S-010 Arimidex (anastrozole) Tablets.

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## FOOD AND DRUG ADMINISTRATION DIVISION OF ONCOLOGY DRUG PRODUCTS

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Pages, including cover sheet:	2	Date: 6-7-02	
Phone: 302-886-5825		Phone: (301) 594-5771	
Fax: 302-886-2822		Fax: (301) 594-0498	
To: Dave Bialek, Pharm.D.	<u></u>	From: Amy Baird, CSO	

#### Re: NDA 20-541/S-010 Arimidex (anastrozole) Tablets.

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#### **COMMENTS:**

Per the clinical reviewer, please provide the information requested on the following pages. Please call should you have any questions.

Thank you,

**/**\$/

#### Page 2 NDA 20-541/S-010

- 1. Please provide information on history of breast biopsies, presence of AH, presence of LCIS by treatment arm.
- 2. Submit information on post-study therapy and crossovers.
- 3. Provide a listing of patients by treatment who received raloxifene during or after withdrawal from trial.
- 4. Provide the location of the histology of new primary contralateral breast cancer and the method of confirmation.
- 5. Please provide a table for patients with a musculoskeletal current illness total number of patients and then number of patients by categories (e.g., arthritis, osteoporosis, etc.) by treatment.

APPEARS THIS WAY ON ORIGINAL

06/07/02 10:16

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05/27 00'38" 8862822 CALLING 02 OK 0000

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## FOOD AND DRUG ADMINISTRATION DIVISION OF ONCOLOGY DRUG PRODUCTS

Number to Drug Evaluation and Research, HFD-150 Supply Mighers Lane, Rockville, MD 20857



7o:	Dave Bialck, Pharm.D.		From: Amy Baird, CSO	
Fax:	302-886-2822		Fax: (301) 594-0498	
Phoo	e: 302-8 <b>8</b> 6-5 <b>825</b>		Phone: (301) 594-5771	_
Page	s, including cover sheet:	2	Date: 6-7-02	

Re: NDA 29-541/S-010 Arimidex (anastrozole) Tablets.

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## FOOD AND DRUG ADMINISTRATION DIVISION OF ONCOLOGY DRUG PRODUCTS

Center for Drug Evaluation and Research, HFD-150 5600 Fishers Lane, Rockville, MD 20857



To:	Laura Garcia-Davenport		From: Amy Baird, CSO	
Fax:	302-886-2822		Fax: (301) 594-0498	
Phon	e: 302-886-7533		Phone: (301) 594-5771	
Pages	s, including cover sheet:	2	<b>Date:</b> 5-30-02	

#### Re: NDA 20-541/S-010 Arimidex (anastrozole) Tablets.

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#### **COMMENTS:**

Per the clinical reviewer, please provide the information requested on the following pages. Please call should you have any questions.

Thank you,

#### Page 2 NDA 20-541/S-010

- 1. Please provide a table with the numbers of patients who developed a new contralateral breast primary after they developed a recurrence of their initial breast cancer by treatment group.
- 2. Provide a table showing numbers of patients and incidence rates: Biphosphonate use (yes/no) by fracture (yes/no) by treatment group. Calcium use (yes/no) by fracture (yes/no) by treatment group.
- 3. Provide a table for all patients who developed a fracture listing each patient with the following information: patient number, treatment received, length of study treatment (exposure) when patient developed fracture and type of fracture.
- 4. Provide a table showing for all patients who experienced a serious adverse event after trial treatment withdrawal: patient number, treatment received, length of study treatment, time from drug discontinuation date to serious adverse event, and serious adverse event.
- 5. Please provide the following CRFs:

0030/0031, 0030/0071, 0049/0065, 0057/0063, 0093/0015, 0099/0014, 0046/0009, 0306/0008, 0449/0013, 0467/0008, 0479/0009, 0496/0002, 0516/0013, 0003/0025, 0014/0017, 0019/0010, 0021/0011, 0029/0034, 0032/0019, 0113/0004, 0116/0011, 0305/0011, 0436/0085, 0486/0081, 0489/0055, 0494/0005, 0003/0058, 0005/0017, 0030/0095, 0049/0059, 0059/0001, 0093/0033, 0117/0001, 0132/0104, 0323/0046, 0416/0024, 0435/0029, 0436/0073, 0438/0024, 0450/0001, 0488/0003

#### 6. Please provide the following:

- a. Reason why patient 0049/0070 in the Arimidex arm started tamoxifen at Visit #7 and provide the duration of the tamoxifen treatment.
- b. Reason why patient 0053/0045 in the Arimidex arm started tamoxifen at Visit #3 and provide the duration of the tamoxifen treatment.
- c. Patient 0072/0016 randomized to tamoxifen showed on visit 3.5 as receiving tamoxifen and anastrozole. Is this in addition to the trial therapy? How long did the patient receive combination treatment?
- d. Why was patient 0216/0004 receiving chemotherapy while on trial?
- e. Patient 0489/0041 randomized to tamoxifen arm received combined hormonal treatment. Please explain the reason and for how long the patient took the combined medication.
- f. Identify the non-allowed therapy that the following patients received before recurrence:

0316/0003 0029/0035 0031/0057 0408/0013 0413/0016 0025/0018 0069/0002 0219/0002 0433/0035

05/30/02 14:33

DATE

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05/30/02

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# FAX

### FOOD AND DRUG ADMINISTRATION DIVISION OF ONCOLOGY DRUG PRODUCTS

Center for Drug Evaluation and Research, HFD-150 5600 Fishers Lane, Rockville, MD 20857



To: Laura Garcia-Davenport

Amy Baird, CSO From:

Fax:

302-886-2822

Fax:

(301) 594-0498

Phone: 302-886-7533

Phone: (301) 594-5771

Pages, including cover sheet:

2

Date: 5-30-02

Re: NDA 20-541/S-010 Arimidex (anastrozole) Tablets.

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### FOOD AND DRUG ADMINISTRATION DIVISION OF ONCOLOGY DRUG PRODUCTS

Center for Drug Evaluation and Research, HFD-150 5600 Fishers Lane, Rockville, MD 20857



To:	Laura Garcia-Davenport		From: Amy Baird, CSO	
Fax:	302-886-2822		Fax: (301) 594-0498	
Phon	e: 302-886-7533		Phone: (301) 594-5771	
Pages	s, including cover sheet:	2	Date: 5-24-02	

Re: NDA 20-541/S-010 Arimidex (anastrozole) Tablets.

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#### **COMMENTS:**

Per the clinical reviewer, please provide the information requested on the following pages. Please call should you have any questions.

Thank you,

#### 1. Please complete the following tables:

Country	Study Sites (n)	Patients Enrolled (n)
United States		
Canada		
Australia		
France	•	
Great Britain	122	
Belgium	5	192
Netherlands	5	7
Total		

Length of Follow-up (months)	Patients	Percentage
<12		
12-<18		
18-<24		
24-<30		
≥30		

<sup>\*</sup>please send by treatment arm.

- 2. Information on the length of follow-up was not included in the submission. Only the median follow-up information was provided. Please provide information regarding the length of follow-up.
- 3. Provide the location of the table where the withdrawals as a result of death were derived. It seems that T10 5.3 and 5.4 has more deaths reported during treatment.
- 4. How many patients were withdrawn from the study due to fractures? If there were any, Tables 60 and 58 should be consistent.
- 5. Please submit information on non-allowed medications use during the trial, including date of first administration, starting date from randomization, duration of therapy, reason for therapy and data on repeated use.

05/24/02 10:13

DATE S.R-TIME DISTANT STATION ID

PAGES

RESULT

05/24

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**P**01



## FOOD AND DRUG ADMINISTRATION DIVISION OF ONCOLOGY DRUG PRODUCTS

Center for Drug Evaluation and Research, HFD-150 5600 Fishers Lane, Rockville, MD 20857



To: Laura Garcia-Davenport From: Amy Baird, CSO

Fax: 302-886-2822 Fax: (301) 594-0498

Phone: 302-886-7533 Phone: (301) 594-5771

Pages, including cover sheet: 2 Date: 5-24-02

Re: NDA 20-541/S-010 Arimidex (anastrozole) Tablets.

THIS DOCUMENT IS INTENDED ONLY FOR THE USE OF THE PARTY TO WHOM IT IS ADDRESSED AND MAY CONTAIN INFORMATION THAT IS PRIVILEGED, CONFIDENTIAL AND PROTECTED FROM DISCLOSURE UNDER APPLICABLE LAW. If you are not the addresses, or a person authorized to deliver the document to the addresses, you are hereby notified that any review, disclosure, dissemination or other action based on the content of the communication is not authorized. If you have received this document in error, please immediately notify us by telephone and return it to us at the above address by mail. Thank you.



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Pages	s, including cover sheet:	1	Date: 5-24-02	

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#### **COMMENTS:**

Per the clinical reviewer, please provide the following information. Please call should you have any questions.

Please individualize code break reasons for adverse events and investigator recommendations/other from the latest submission. We would also like to know if the patients who were unblinded for adverse events were withdrawn from the study. If so, provide code break date and study withdrawal date.

Thank you,

05/24/02 10:49

DATE S.R-TIME DISTANT STATION ID MODE PAGES RESULT

25/24 20'29" 8862822 CALLING 21 DK 2002

NO.Ø18

D01

05/24/02

10:47

**FAX** 

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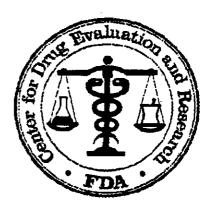
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#### **COMMENTS:**

Per the clinical reviewer, please provide information regarding how many patients had their treatment code broken and reasons for breaking the code. Please call should you have any questions.

Thank you,

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05/01/02 09:45

DATE . S.R-TIME DISTANT STATION ID MODE PI

DDE PAGES RESULT

05/01 00'28" 8862822 CALLING 01 OK 0000

05/01/02

09:44

NO.002

**D**Ø1

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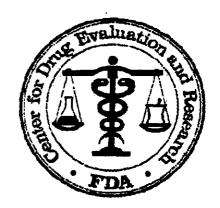
Pages, including cover sheet: 1 Date: 5-1-02

Re: NDA 20-541/S-010 Arimidex (anastrozole) Tablets.

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Pages	, including cover sheet: 1	Date: 3-12-02

Re: NDA 20-541/S-010 Arimidex (anastrozole) Tablets. Submission dated 3-4-02.

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#### **COMMENTS:**

Per the chemistry reviewer:

All applications (e.g., sNDAs) requesting agency action require the submission of an EA or a claim of categorical exclusion. Under the revised 21 CFR Part 10, your supplemental new drug application qualifies for a categorical exclusion, if action on this submission does not increase the use of active moiety, or results in increased use of the active moiety, but the estimated concentration of the substance at the point of entry into the aquatic environment will be below 1 ppb.

We recommend that you review your data and determine whether an EA or a claim of categorical exclusion should be submitted. Please note that the standard expected introduction concentration (EIC) is included in the EA Industry Guidance and the calculation should be based on the kg of the active moiety used in the entire product line for Arimidex.

Please call should you have any questions.

Thank you,

/3/

03/12/02 12:13

DATE S,R-TIME DISTANT STATION ID MODE PAGES RESULT

03/12 00'33" 8862822 CALLING 01 0K 0000

03/12/02

12:12

NO.011 P01

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